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ABSTRACT

This paper describes an inquiry which answers two questions regarding the installation of a new instructional program: (1) What are the patterns of implementation displayed when a new program is installed across the country? Implementation in this context is described in terms of the selection and placement of learners, pacing of instruction and pupil proficiency after instruction. (2) In view of departure from recommended placement and program exit criteria, what are the implications concerning the institutionalizing of children in underachievement roles? The vehicle for this research is the installation of the English Language and Concepts Program for Spanish Speaking Pupils (LCS). (Author)

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Patterns of Program Use: An Examination of Installation Data on the English Language and Concepts Program for Spanish Speaking Pupils (LCS)

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This paper describes an inquiry which addresses questions regarding the installation of a new instructional program:

(1) What are the patterns of implementation displayed when a new program is installed across the country? Implementation in this context is described in terms of the selection and placement of learners, pacing of instruction and pupil proficiency after instruction.

(2) In view of departure from recommended placement and program exit criteria, what are the implications concerning the institutionalizing of children in underachievement roles?

The vehicle for this research is the installation of the English Language and Concepts Program for Spanish Speaking Pupils (LCS). LCS is in use in many bilingual programs as the English language components. An important aim of LCS is to provide sufficient English language proficiency to begin standard reading instruction as soon as possible. The components which comprise LCS include: teacher directed lessons, a tutorial program which provides a daily review experience, and a Quality Assurance System (QA) which provides a Placement Aid, Unit Assessments with review exercises to

be used if needed, and an End of Program Assessment. The Placement Aid is to be used as a guide for:

(1) selection of students for instruction

(2) placement of students selected for instruction in either of two entry points, Unit 1 or Unit 9. Unit 9 is approximately at mid point in the 15 unit program.

The data reported were gathered through the installation of the LCS Program during the 1973-74 school year. This installation was significant for several reasons. First, it marked the first time all aspects of the program's instructional, training/installation, and quality assurance (QA) systems were fully exercised under commercial conditions. Second, the participants involved in the inquiry represented the full diversity in instructional settings that typically serve Mexican-American children. Finally, the report constitutes an aggregate of cumulative information acquired from previous inquiries involving LCS (Molina, 1973) and corroborates the findings of Hanson and Schutz (1975) and others (Stallings and Kaskowitz, 1974) that concern the effects of programmatic R&D on schooling and the effects of schooling on students. Thus the data and the analyses have both program-specific and education-general import.

Tryout and quality materials and procedures were essentially the same as those for previous tryouts. The only exception was the non-involvement of SWRL in training instructional personnel and supplying instructional materials. The publisher assumed those responsibilities.

APPROACH

The implementation of new instructional programs in schools is currently the focal point for much inquiry (e.g., Rivlin and Timpane, 1975; Stallings and Kaskowitz, 1974). This study focusses on several important implementation issues; describing various patterns of program use and determining the contribution of various factors to this process. It departs from earlier work in this area in several important ways. First, the research vehicle is a program which has been designed for use by a special population of school pupils; those for whom Spanish is the native language. A second distinguishing aspect of this research is in the characteristics of the program employed. LCS is a research based instructional program designed to teach specific skills (outcomes) to specific pupils. Also, unlike many other programs, the instructional system is supported by specific components designed to assist in the implementation and use of the Program. Another feature of the inquiry is the installation of the LCS program under natural conditions, i.e., without special relationships to the developer. This helps assure the representiveness of the information provided. This information was obtained via a system which operates in conjunction with the program. It provides a service to program users via timely reports on the program and at the same time provides the primary data resource for the research effort. Finally, there are the methods employed to examine the data themselves. In this regard, the results described in this paper rely on descriptive measures and figures which illustrate the patterns of use. More detailed data analyses can be found in Molina, et al., 1975.

DATA SOURCES

Analyses are presented based on data from 35 districts, approximately 115 schools, 3,000 pupils, from four states representing different areas of the country: Texas, California, Nevada, and Florida. The following variables are available on each pupil.

1. Measured and rated English language proficiency upon entry
2. Age, sex and grade placement of pupils upon entry
3. Suggested and actual placement in Program
4. Unit proficiency enroute
5. Duration of Program use
6. Rate of unit completion
7. Number of units completed
8. Proficiency status Program use in terms of major outcomes i.e., concept identification, concept statement and language production.

These variables are aggregated at the class, school and district levels and analyzed in conjunction with other measures from these levels.

RESULTS

A description of the participating pupils is given in Table 1. The array shows that the pupil set is composed of approximately equal numbers of males and females. The pupils were drawn, however, from a wide range of age and grade placements. Although the majority are 5 or 6 years old with grade placement in kindergarten or first grade, the children range in age up to 12 years and in grade placement up to grade 7. The wide range of pupils' ages and grade levels is an unusual and significant aspect of the LCS Program. Typically, an instructional program is used

Table 1

Description of Pupils

Characteristic	Categories	Number	Percent
Sex			
	Male	979	51
	Female	953	49
Age			
	≤ 4	25	2
	5	694	43
	6	364	22
	7	169	10
	8	123	8
	9	68	4
	10	79	5
	11	55	3
	≥12	54	3
Grade			
	K	963	48
	1	397	21
	2	200	11
	3	142	8
	4	66	3
	5	78	4
	6	85	5
	≥ 7	3	0
English Proficiency			
	None	641	39
	With Accent	743	45
	Without Accent	263	16
Placement in Program			
	LCS 1	2,384	76
	LCS 9	748	24

by a much narrower and more homogeneous age/grade group. The data also show that 84% of the LCS pupils either did not speak English or did so with an accent upon entering the program, as judged by the teacher.

Actual and Recommended Placement. An important aspect of program use is the extent to which actual pupil placement for instruction corresponds to the pupil's entering proficiency. In this case, proficiency is measured (for LCS) by the Placement Aid. The data in Table 2 show the number of pupils attaining each possible score on the Placement Aid and the agreement between recommended and actual placement.

Table 2

Placement Aid Score Distribution by Recommended and Actual Placement

Recommended Placement	Score Category	Actual Placement: LCS 1 N	LCS 1 %	LCS 9 N	LCS 9 %
LCS 1	0	361	26	1	0
	1	79	6	3	1
	2	79	6	1	0
	3	90	7	3	1
	4	76	6	1	0
	5	54	4	2	0
	6	44	3	5	1
	7	68	5	10	2
	8	95	7	10	2
	9	62	5	23	4
	10	55	4	46	7
Total	1,168	1,063	(91%)	105	(9%)
LCS 9	11	47	3	61	10
	12	62	5	63	10
	13	48	4	68	11
	14	52	4	75	12
	15	43	3	103	17
Total	626	252	(41%)	370	(59%)
Reading	16	24	2	53	9
	17	20	2	46	7
	18	14	1	52	8
Total	209	58	(28%)	151	(72%)
Overall Total	1,999	1,373	(68%)	626	(32%)

These data show a tendency for pupils to be placed below the recommended entry level. A clear example of this phenomena can be seen in the placement decision for pupils scoring in the 11-15 score intervals. The recommended placement for these pupils is LCS 9. However, 41% of those pupils were placed in LCS 1.

Three-fourths of the participants were placed in LCS 1. LCS 9 participants tended to be slightly older and from higher grades. About two-thirds of the LCS 1 participants were 5 to 6 years of age and in kindergarten or first grade. The clearest difference between LCS 1 and LCS 9 pupils was in teacher-rated English language proficiency. Over half of the LCS 1 pupils were rated as not able to speak English while only 4% of the LCS 9 pupils were so rated; the LCS 9 pupils possessed some degree English language skills prior to LCS instruction.

Unit Completion Rate and Proficiency. There is a very clear relationship between units completed in LCS and pupil age and grade placement; older pupils tend to complete more units. The number of units completed is not related, however, to the initial English ability of entering pupils in LCS 1. Thus, pupils rated by teachers as not speaking English were able to complete as many units as pupils rated as having either some or considerable skills. Pupils from suggested placement categories of LCS 9 and standard reading placement (equivalent to completion of all LCS units) typically and expectedly completed more LCS 1 units than pupils whose suggested placement was LCS 1.

End of Program Status. Two indicators of pupil proficiency status after LCS instruction were used in the inquiry. The first was the proficiency of pupils on the three outcomes of the LCS Program Assessment.

The outcomes were 1) Concept Identification, which requires that the pupil point to an object in response to a question given in English; 2) Concept Statement, which requires that the pupil produce a short verbal response in English about a picture; and 3) Language Production, which requires that the pupil produce a complete English sentence. The LCS Program Assessment was administered to each pupil individually by the classroom teacher at either the end of the school year or after completion of LCS instruction. High proficiency was evidenced on all three End of Program Assessment outcomes. This was especially true of the Concept Identification and Language Production outcomes where the highest score category was the modal score. The score distribution for the Concept Statement outcome indicated slightly less proficiency for participating LCS I pupils. It was anticipated that pupils would perform well on the Language Production outcomes since it represented the primary goal of the program and special exercises (in which children manipulated English syntax) were presented on it at the end of each instructional unit.

The second indicator of pupil proficiency was pupil instructional status in terms of placement after the completion of instruction. As stated above, an important aim of LCS is to provide sufficient English language proficiency to allow pupils to return to standard reading instruction as soon as possible. Information on this aspect of the program is summarized in Table 3. Of special note is the minimal difference in the number of pupils who return to standard reading instruction from the various pupil categories. If anything, the pattern is somewhat contrary to what might be anticipated: younger pupils, those with limited English skills upon entering

into LCS, and those with lower placement scores are at least as well represented in the "returned to instruction" group as their classmates in other categories. The overall proportion of pupils who return to standard reading instruction is not reasonable in view of the pattern of unit completion and proficiency displayed by those pupils on the Program Assessment. The data clearly show that many of the LCS 1 pupils, as expected, simply did not receive enough LCS instruction within one school year to master the Concept Statement and Language Production outcomes by the end of the school year.

The data of the LCS 9 pupils show that about half were returned to regular instruction by the end of the school year. There is little variation in this proportion within each of the pupil characteristic categories. While this percentage is substantial, it is still below that which appears reasonable and possible with LCS use, given the pattern of proficiency displayed on the Program Assessment.

Table 3

Status of Pupils After Instruction

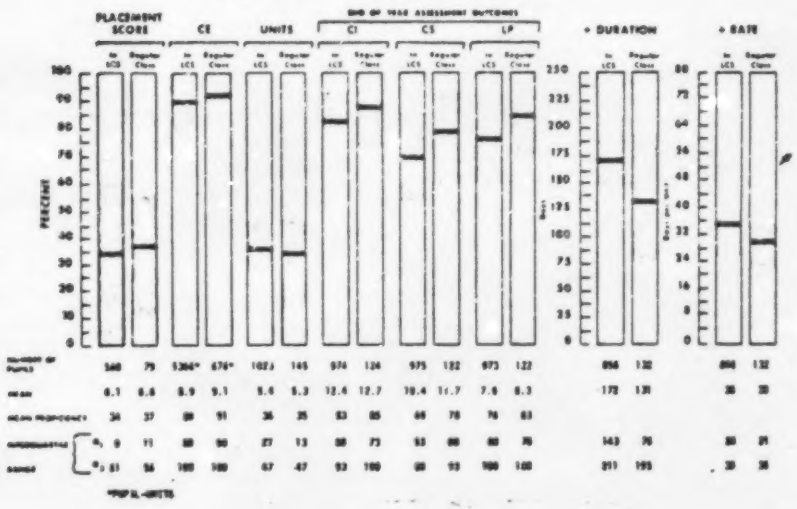
		LCS 1				LCS 9			
		Regular Class	Left School	Other Spec. Prog.	In LCS	Regular Class	Left School	Other Spec. Prog.	In LCS
Suggested Placement	LCS 1	64 (12)	50 (09)	10 (02)	432 (79)	31 (45)	6 (09)	2 (03)	30 (44)
	LCS 9	12 (07)	16 (10)	3 (02)	132 (81)	119 (57)	14 (07)	4 (02)	72 (34)
	Reading	3 (10)	1 (03)	1 (03)	24 (83)	50 (61)	4 (05)	0 (00)	28 (34)
English Ability	None	36 (07)	57 (11)	12 (03)	382 (78)	4 (50)	2 (25)	0 (00)	2 (25)
	Accent	54 (16)	36 (11)	6 (02)	234 (71)	124 (58)	14 (07)	2 (01)	74 (35)
	No Accent	3 (04)	4 (06)	1 (02)	60 (88)	56 (49)	8 (07)	4 (04)	46 (40)
Age	4 to 5	45 (11)	46 (12)	11 (03)	288 (74)	43 (47)	6 (07)	0 (00)	42 (46)
	6	28 (14)	21 (10)	4 (01)	154 (74)	51 (74)	6 (09)	2 (03)	10 (15)
	7 to 8	9 (06)	12 (08)	5 (03)	121 (82)	62 (63)	5 (05)	0 (00)	31 (32)
	>8	3 (03)	14 (12)	0 (00)	103 (86)	29 (51)	5 (09)	4 (07)	19 (33)
Grade	K	58 (13)	55 (12)	16 (04)	324 (71)	56 (53)	5 (05)	0 (00)	45 (42)
	1	36 (15)	22 (09)	3 (01)	179 (74)	52 (68)	8 (11)	2 (03)	14 (18)
	2-3	6 (04)	17 (09)	1 (02)	117 (85)	60 (54)	6 (05)	0 (00)	46 (41)
	4-8	0 (00)	9 (10)	0 (00)	81 (90)	28 (48)	3 (05)	4 (07)	23 (40)
Total		145 (11)	168 (12)	29 (02)	1023 (75)	216 (50)	32 (07)	11 (03)	171 (40)

Characteristics of Pupils Leaving and Remaining in LCS. The characteristics of the LCS 1 pupils assigned to LCS for further instruction compared to those who either return or will return to standard reading instruction are presented in Table 4. These data are useful in understanding differences in the way the program is used. In general, the pupils who returned to standard reading instruction performed at slightly higher level on all the performance measures. These included the Placement Aid given prior to instruction (34% vs. 37%), the unit Criterion Exercises given during instruction (89% vs. 91%), and the three outcomes of Concept Identification (83% vs. 85%), Concept Statement (69% vs. 78%) and Language Production (76% vs. 83%) of the Program Assessment. Yet the differences in performance between these two groups are quite small and of little practical value, especially on the Placement Aid and unit Criterion Exercise measures. Further, the data in Table 4 show much overlap in the distributions on each of these measures.

In terms of the pacing measures, LCS 1 pupils leaving LCS did not outperform their counterparts in terms of duration and quantity of units completed but rather in terms of rate. This difference in rate of completion of "graduating" LCS pupils is predictable. Coupled with other data, the general impression is that pupils leaving LCS performed at slightly higher levels on proficiency measures and moved through the program at a slightly more rapid pace. However, the overall impression is that decisions about placement for this group cannot be explained solely on the basis of proficiency. Clearly, other considerations are being used by teachers in reaching this instructional decision.

Table 4

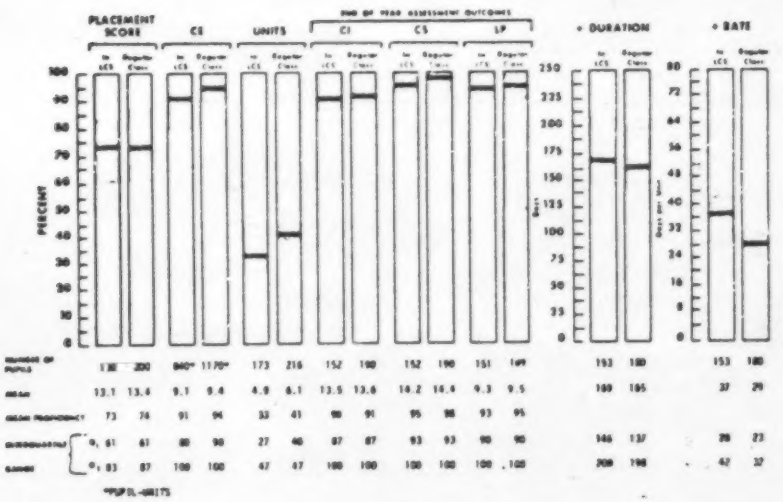
Characteristics of LCS 1 Pupils Remaining and Leaving the Program at End of Year



The data on LCS 9 pupils in Table 5 show a somewhat different pattern. For all LCS 9 pupils, high scores were obtained on the performance measures with minimal differences in proficiency between the groups of pupils remaining in and those graduating from LCS. LCS 9 students remaining in LCS attained 90% or more mean proficiency in all three program outcomes and were not assigned to regular reading for the following school year. There clearly are important differences, however, in the measures of program pacing between these groups, with pupils graduating from LCS completing more units at a faster rate and in less time (days).

Table 5

Characteristics of LCS 9 Pupils Remaining and Leaving the Program at End of Year



CONCLUSION

The data confirm and extend the findings of previous studies involving LCS. The program is demonstrably a flexible, sensitive, and powerful instructional resource. All indicators of program effectiveness point to considerable robustness of desired effects under a remarkably wide range of use conditions, without the direct support of the agency which developed it.

More central to this particular paper, however, are the relationships between pupil proficiency on entry, enroute and at the end of the year relative to their status. In this regard, the indicators of program use do not reflect a universal pattern of reasoned and coherent instructional decision making. Instead, it suggests that in many situations considerations other than pupil proficiency indicators play an important role in the teacher's decisions about initial placement, the pacing of instruction and placement at the end of program use. In large part this does not reflect "conservative"

professional judgements regarding pupil placement, pacing of instruction, and graduation from LCS. According to the present data, teachers/schools in specific cases established conditions that underestimated the instruction the child could handle and thereby differentially affected his or her subsequent learning via misplacement. This is not to fault the program per se. Considering entry scores, important instructional accomplishments on LCS outcomes were reliably attained by participating pupils. It simply says that a rational basis for the decisions made by some teachers, and administrators using LCS during the school year cannot be justified on the basis of the available information.

Examination of installation data such as this draws attention to the following questions:

1. Are children being channeled into remediation type experiences in early elementary school that affect their subsequent levels of instruction?
2. In what ways was the Program implemented in those situations where children were placed as recommended by Placement Aid scores and End of Program assessment scores?
3. What role did teachers, principals, and parents play in the implementation of the Program in which children were placed and later joined regular instruction as recommended by program assessment proce ures?

These are some questions we will address in our future research efforts.

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